

REMARKS/ARGUMENTS

The office action of June 1, 2006 has been carefully reviewed and these remarks are responsive thereto. Reconsideration and allowance of the instant application are respectfully requested. Claims 1-14, 18-23, 27-35 and 43-51 remain in this application. Claims 15-17, 24-26 and 36-42 were previously canceled without prejudice or disclaimer.

Applicant notes with appreciation the indication that the application contains allowable subject matter. Specifically, claims 45-51 have been allowed and claims 4, 19-22, 34 and 35 have been objected, but would be allowable if rewritten in independent form to include the subject matter of their base claim and any intervening claims.

Claims 1-3, 13-14, 27, 32-33, and 43-44 stand rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. patent no. 6,370,262 to Kawabata. Applicant respectfully traverses this rejection.

In the last response, applicant argued that Kawabata lacked a teaching or suggestion of identifying at least one object with a 2D image without using distance measurement data and then allocates a depth tag to the at least one object as recited in claim 1. More specifically, applicant pointed out that Kawabata requires the depth data (or distance information) to be known before an object is even identified. Refuting applicant's position, the action contends that Kawabata, at col. 6, lines 18-30, discloses determining the distance measurement data after the object is identified. In particular, the action states "object O is identified in a 30x20 original image (see the grey portion in figure 2A), wherein the original image is obtained from CCD imaging devices (3, 4)." On the contrary, Kawabata, at col. 4, lines 1-4, in the Brief Description of the Drawings section, clearly pronounces that "Figs. 2A to 2E are drawings to diagrammatically show extraction of an object **from distance measurement data and luminance information** in the first embodiment of the present invention." (Emphasis supplied).

Applicant will explain Figs. 2A-2C to further emphasize that Kawabata fails to teach or suggest identifying at least one object with a 2D image without using distance measurement data and then allocates a depth tag to the at least one object as recited in claim 1. Fig. 2A shows an original picture (30x20) with an object "O" on the right lower portion (col. 6, lines 19-21). The grey portion in Fig. 2A merely illustrates that an object is present; Kawabata does not teach or

suggest having identified or determined the outline or shape of the object at this stage. Fig. 2B shows distance information that has been calculated by grouping the original images from the CCDs 3, 4 into units of 5x5 to obtain an image 6x4 of distance information (col. 6, lines 21-24). In Fig. 2C the “relationship between the shape of the object and distance information can be obtained” (col. 6, lines 27-30). Further, at col. 6, lines 44-49, Kawabata states that “[t]hus, for the blocks as determined as those of 2 m in FIG. 2B, it is determined from the data in the memory portion 14 which positions in the block correspond to the pixel portions in the above contour part. As a result, an image at the position in FIG. 2C is determined to be of 2 m”. This means that Kawabata determines depth of various blocks, and then joins together blocks of the same depth. In this manner, the object is identified by using the depth information as opposed to being identified without using distance measurement data as recited in claim 1.

In sum, the steps from Fig. 2A to 2C are as follows: 1) Fig. 2A shows the original image; 2) Fig. 2B shows the result of depth calculation within each block; and 3) in Fig. 2C the shape of the object is determined using the distance information previously calculated. From this sequence of steps, it is apparent that the distance information is calculated in step 2 (Fig. 2B) prior to the object being identified in step 3 (Fig. 2C). Indeed, Kawabata confirm this explanation of the sequence of steps at col. 6, line 65 to col. 7, line 2 stating “[a]s described above, it is possible to determine the ‘shape of an object cut out as to the distance,’ which permits the shape of an object to be discriminated as shown in FIG. 2E or FIG. 2C, from the distance image of rough blocks in FIG. 2B.”

In view of the above, Kawabata neither teaches nor suggests at least the claim 1 feature of identifying at least one object with a 2D image without using distance measurement data and then allocates a depth tag to the at least one object. As discussed, Kawabata requires the depth data (or distance information) to be known before the object is identified.

Independent claim 27 is similarly distinguishable from Kawabata calling for a method of encoding a depth map including allocating an object identifier to an object without using distance measurement data, and allocating a depth tag to the object. Claims 2, 3, 13, 14 and 43, which depend from claim 1, and claims 32, 33, and 44, which ultimately depend from claim 27, are

allowable for the same reasons as their base claim, and further in view of the novel features recited therein.

The remaining pending claims stand rejected under 35 U.S.C. § 103(a) as being unpatentable over various combinations of applied art. Specifically,

- claim 5 over the combination of Kawabata and U.S. patent no. 6,167,167 to Matsugu;
- claims 6-10 and 28-31 over the combination of Kawabata and U.S. patent no. 6,029,173 to Meek;
- claims 11-12 over the combination of Kawabata and U.S. patent no. 5,793,900 to Nourbakhsh;
- claim 18 over the combination of Kawabata and U.S. patent no. 6,055,330 to Eleftheriadis; and
- claim 23 over Kawabata alone.

Notwithstanding whether any of the above art is properly combinable with Kawabata, none of the other applied art overcomes the deficiencies identified with respect to Kawabata. For at least this reason, claims 5-12, 18 and 23, which ultimately depend from claim 1, and claims 28-31, which ultimately depend from claim 27, are patentably distinct from Kawabata alone or in combination with the applied art.

CONCLUSION

All rejections having been addressed, applicant respectfully submits that the instant application is in condition for allowance, and respectfully solicits prompt notification of the same.

If any additional fees are required or if an overpayment is made, the Commissioner is authorized to debit or credit our Deposit Account No. 19-0733, accordingly.

Respectfully submitted,
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